

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 20383 4/23/2001]

[Docket No. 2001-NM-42-AD; Amendment 39-12179 ; AD 2001-08-02]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 707 and 720 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes two existing airworthiness directives (AD), applicable to all Boeing Model 707 and 720 series airplanes, that currently require inspections of the upper chords of the wing front and rear spars, repair, if necessary, and application of corrosion inhibitor to the inspected areas. This amendment requires repetitive inspections of the upper *and lower* chords on the wing front and rear spars, repair, if necessary, and application of corrosion inhibitor to the inspected areas. These actions are necessary to find and fix stress corrosion cracking of the upper and lower chords on the wing front and rear spars, which could result in reduced structural integrity of the wing. This action is intended to address the identified unsafe condition.

DATES: Effective May 8, 2001.

The incorporation by reference of certain publications, as listed in the regulations, is approved by the Director of the Federal Register as of May 8, 2001.

The incorporation by reference of Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, as listed in the regulations, was approved previously by the Director of the Federal Register as of March 10, 1992 (57 FR 4153, February 4, 1992).

Comments for inclusion in the Rules Docket must be received on or before June 22, 2001.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2001-NM-42-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2001-NM-42-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Duong Tran, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2773; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: On May 28, 1986, the FAA issued AD 86-11-06, amendment 39-5327 (51 FR 20249, June 4, 1986), applicable to certain Boeing Model 707 and 720 series airplanes, to require repetitive inspections to detect cracks or corrosion of the upper chord of

the wing front spar, repair, if necessary, and application of corrosion inhibitor. The actions required by that AD are intended to ensure continued structural integrity of the upper chord of the wing front spar.

On January 17, 1992, the FAA issued AD 92-03-12, amendment 39-8169 (57 FR 4153, February 4, 1992), applicable to certain Boeing Model 707 and 720 series airplanes, to require repetitive inspections to detect cracks or corrosion of the upper chord of the wing rear spar, repair, if necessary, and application of corrosion inhibitor. The actions required by that AD are intended to ensure continued structural integrity of the upper chord of the wing rear spar.

Actions Since Issuance of Previous Rule

Since the issuance of those AD's, a 31-inch crack was found in the radius of the lower chord of the wing front spar in the dry bay area between wing stations 360 and 400. Investigation revealed that 19 inches of the crack were due to stress corrosion, while the remainder was due to ductile separation. While the existing AD's require repetitive inspections to detect cracks or corrosion of the upper chord of the wing front and rear spars, engineering evaluation suggests that both upper and lower chords on the front and rear spars may be subject to such cracking. Cracking of an upper or lower chord of the wing front or rear spar, if not found, could result in reduced structural integrity of the wing.

Explanation of Relevant Service Information

AD 86-11-06 requires inspections of the upper chord of the wing front spar per Boeing Service Bulletin 3240, Revision 1, dated November 13, 1981, Revision 2, dated May 3, 1985, or Revision 3, dated October 18, 1985. AD 92-03-12 requires inspections of the upper chord of the wing rear spar per Boeing Service Bulletin 3240, Revision 3. Since the issuance of those AD's, Boeing has issued All Base Message (ABM) M-7200-01-00062, dated January 5, 2001. The ABM modifies the procedures described in Boeing Service Bulletin 3240, Revision 3, to emphasize certain procedures for solvent cleaning, detailed visual inspections (referred to in the service bulletin and the ABM as "close visual inspections") to detect corrosion or cracking of the upper and lower chords on the wing front and rear spars, application of surface finish, and application of corrosion inhibitor. The ABM also recommends a new compliance time for accomplishment of the next inspection. Performing inspections and follow-on actions per Revision 3 of the service bulletin as revised by the ABM eliminates the need for the inspections required by the existing AD's.

Explanation of Requirements of Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of this same type design, this AD supersedes AD 86-11-06 and AD 92-03-12 to continue to require the inspections and follow-on actions required by those AD's. This AD also requires accomplishment of the actions specified in the service bulletin as modified by the procedures in the ABM described previously, except as discussed below. Once the new requirements of this AD have been done, the inspections per the old AD's are no longer required.

Differences Between Service Information and This AD

This AD differs from the service information in these ways:

- If any crack or corrosion is found, this AD requires repair of such damage before further flight. However, the service bulletin specifies that stop drilling of cracks allows the repair to be deferred. The FAA finds that stop drilling is not adequate to arrest stress corrosion cracking; thus, stop drilling is not adequate to ensure the safety of the affected airplane fleet. Thus, this AD requires that any cracking or corrosion that is found be repaired before further flight.
- Also, although the service bulletin specifies that the manufacturer may be contacted for disposition of certain repair conditions, this AD requires the repair of those conditions to be done per a method approved by the FAA, or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings.

Explanation of Changes in Restatement of Requirements of Existing AD's

Paragraphs (a) through (i) restate the requirements of AD 86-11-06 and AD 92-03-12. Certain existing requirements specify "close visual inspections." The FAA finds that "detailed visual inspection" is a more accurate term for the type of inspections that are required. Therefore, the FAA has revised the existing requirements as stated in paragraphs (a) and (f) of this AD to identify the required inspections as "detailed visual inspections." Also, Note 2 has been added to include a definition of "detailed visual inspection."

Additionally, the restatement of requirements of the existing AD's has been revised to remove all references to the use of "later FAA-approved revisions" of Boeing Service Bulletin 3240, Revision 1, in order to be consistent with FAA policy in that regard. Instead, the FAA has listed the specific revisions of the service bulletin that have been approved. The FAA has determined that this change will not increase the economic burden on any operator, nor will it increase the scope of the AD.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2001-NM-42-AD." The postcard will be date-stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the

Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing amendments 39-5327 (51 FR 20249, June 4, 1986) and 39-8169 (57 FR 4153, February 4, 1992), and by adding a new airworthiness directive (AD), amendment 39-12179, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-08-02 BOEING: Amendment 39-12179. Docket 2001-NM-42-AD. Supersedes AD 86-11-06, Amendment 39-5327, and AD 92-03-12, Amendment 39-8169.

Applicability: All Model 707 and 720 series airplanes, certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (m) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Note 2: For the purposes of this AD, a detailed visual inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

Compliance: Required as indicated, unless accomplished previously.

To find and fix stress corrosion cracking of the upper and lower spar chords on the front and rear spars of the wing, which could result in reduced structural integrity of the wing, accomplish the following:

RESTATEMENT OF REQUIREMENTS OF AD 86-11-06:

AD 86-11-06: Repetitive Inspections

(a) For Model 707 and 720 series airplanes with 15,000 or more landings: Within 100 landings or 60 days after July 14, 1986 (the effective date of AD 86-11-06, amendment 39-5327), unless previously accomplished within the last 900 landings or 305 days prior to July 14, 1986, perform a detailed visual inspection of the wing front spar upper chord for cracks and corrosion, in accordance with Boeing Service Bulletin 3240, Revision 1, dated November 13, 1981, Revision 2, dated May 3, 1985, or Revision 3, dated October 18, 1985. Repeat the inspection thereafter at intervals not to exceed 1,000 landings or one year, whichever occurs first.

AD 86-11-06: Repair

(b) If cracks or corrosion are found during the inspection per paragraph (a) of this AD, repair prior to further flight in accordance with Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985.

AD 86-11-06: Stop Drilling, Repetitive Inspections, and Permanent Repair

(c) For airplanes subject to paragraph (a) of this AD: Cracks which have been repaired in accordance with the "stop drilling" procedure described in Part III, Figure 2, of Boeing Service Bulletin 3240, Revision 1, dated November 13, 1981, Revision 2, dated May 3, 1985, or Revision 3, dated October 18, 1985, must be visually inspected at intervals not to exceed 300 landings, until permanently repaired in accordance with Part III, Figure 2, of Service Bulletin 3240, Revision 3, dated October 18, 1985. A permanent repair must be completed within 1,000 landings or one year, whichever occurs first after July 14, 1986.

AD 86-11-06: Repair Per Earlier Service Bulletins

(d) For airplanes subject to paragraph (a) of this AD: Cracks greater than 2.0 inches in length, which have been previously repaired in accordance with Boeing Service Bulletin 3240, Revision 1, dated November 13, 1981, or Revision 2, dated May 3, 1985, must be repaired in accordance with Revision 3, dated October 18, 1985, within 1,000 landings or one year, whichever occurs first after July 14, 1986.

AD 86-11-06: Application of Corrosion Inhibitor

(e) For airplanes subject to paragraph (a) of this AD: After each of the above inspections and repairs have been performed, apply BMS-3-23 corrosion inhibitor, or equivalent, to the affected areas.

RESTATEMENT OF REQUIREMENTS OF AD 92-03-12:**AD 92-03-12: Repetitive Inspections**

(f) For all Model 707 and 720 series airplanes: Perform a detailed visual inspection for cracks and corrosion of the wing rear spar upper chord from wing station (WS) 109.45 to WS 360 for Model 707-300 series airplanes; or from WS 180.71 to WS 360 for Model 720, 707-100, and 707-200 series airplanes; at rib and stiffener locations. Inspect in accordance with Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, prior to the later of the times specified in subparagraphs (f)(1) and (f)(2) of this AD, unless previously accomplished within the last 900 flight cycles or 335 days prior to June 19, 1991 (the effective date of AD 91-11-06). Repeat the inspection at intervals not to exceed 1,000 flight cycles or one year, whichever occurs first.

- (1) Within the next 30 days or 100 flight cycles after June 19, 1991; or
- (2) Prior to the accumulation of 10,000 total flight cycles.

AD 92-03-12: Corrective Actions

(g) If cracks or corrosion areas are found during any inspection per paragraph (f) of this AD, prior to further flight, accomplish either subparagraph (g)(1) or (g)(2) of this AD:

(1) Repair, other than by stop drill procedure, in accordance with Part III, Figure 2, of Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985 (this is considered the "final repair"), or

(2) Repair in accordance with the stop drill procedures specified in Part III, Figure 2, of Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985. This repair method may only be used provided that the limitations specified in Part III, Figure 2, Items 5a and 5b, of the service bulletin are met.

(i) Immediately after stop drilling, conduct an eddy current inspection of the stop drill hole in accordance with the instructions in Section 5-5-1 of Boeing Document D6-7170, Nondestructive Test Document, to ensure that the crack does not extend beyond the stop drill. Thereafter, inspect visually for crack growth beyond the stop drill at intervals not exceeding 300 flight cycles.

(ii) If crack growth beyond the stop drill occurs, prior to further flight, accomplish the final repair in accordance with paragraph (g)(1) of this AD.

(iii) Within 1,000 flight cycles or one year, whichever occurs first, after the stop drill has been accomplished, accomplish the final repair in accordance with paragraph (g)(1) of this AD.

AD 92-03-12: Inspection of Previously Stop Drilled Cracks

(h) If previously stop drilled cracks are found during any inspection required by paragraph (f) of this AD, conduct an eddy current inspection of the stop drill hole for crack growth beyond the stop drill, in accordance with the instructions in Section 5-5-1 of Boeing Document D6-7170, Nondestructive Test Document.

(1) If growth beyond the stop drill has occurred, prior to further flight, repair in accordance with paragraph (g)(1) of this AD.

(2) If growth beyond the stop drill has not occurred, and the limitations specified in Part III, Figure 2, Items 5a and 5b, of Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, are met, prior to further flight accomplish either subparagraph (h)(1)(i) or (h)(1)(ii) of this AD:

(i) Repair in accordance with paragraph (g)(1) of this AD; or

(ii) Reinspect visually for crack growth beyond the stop drill at intervals not exceeding 300 flight cycles.

(A) If crack growth beyond the stop drill occurs, prior to further flight, accomplish the final repair in accordance with paragraph (g)(1) of this AD.

(B) Within 1,000 flight cycles or one year, whichever occurs first after the initial inspection revealed the stop drill crack, accomplish the final repair in accordance with paragraph (g)(1) of this AD.

AD 92-03-12: Application of Corrosion Inhibitor

(i) After each of the inspections and repairs required by paragraphs (f) and (g) of this AD have been performed, apply BMS 3-23 corrosion inhibitor, or equivalent, to the affected areas.

NEW REQUIREMENTS OF THIS AD:

New Repetitive Detailed Visual Inspections

(j) Within 30 days after the effective date of this AD, do a detailed visual inspection for corrosion or cracking of the upper and lower chords on the front and rear spars, per Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, as modified by Boeing All Base Message (ABM) M-7200-01-00062, dated January 5, 2001. Repeat the inspections thereafter at least every 6 months or 1,000 flight cycles, whichever comes first. Doing the initial inspection per this paragraph terminates the inspections required by paragraphs (a) and (f) of this AD.

Note 3: There is no terminating action available for the repetitive inspections required by paragraph (j) of this AD.

Repair

(k) If any cracking or corrosion is found during any inspection per paragraph (j) of this AD: Before further flight, repair per Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, as modified by Boeing ABM M-7200-01-00062, dated January 5, 2001, except, where the service information specifies to contact Boeing for repair instructions, before further flight, repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the approval letter must specifically reference this AD.

Note 4: "Stop drilling" of cracks as a means to defer repair, as specified in Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, is NOT allowed by paragraph (k) of this AD.

Application of Corrosion Inhibitor

(l) After each inspection required by paragraph (j) of this AD and any repair per paragraph (k) of this AD, before further flight, apply BMS 3-23 corrosion inhibitor to the affected areas.

Alternative Methods of Compliance

(m) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 5: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(n) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(o) Except as provided by paragraph (e), (g)(2)(ii), (h), (i), (k), and (l) of this AD; the actions shall be done in accordance with Boeing Service Bulletin 3240, Revision 1, dated November 13, 1981; Boeing Service Bulletin 3240, Revision 2, dated May 3, 1985; Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985; or Boeing All Base Message M-7200-01-00062, dated January 5, 2001; as applicable.

(1) The incorporation by reference of Boeing Service Bulletin 3240, Revision 1, dated November 13, 1981; Boeing Service Bulletin 3240, Revision 2, dated May 3, 1985; and Boeing All Base Message M-7200-01-00062, dated January 5, 2001, is approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Service Bulletin 3240, Revision 3, dated October 18, 1985, was approved previously by the Director of the Federal Register as of March 10, 1992 (57 FR 4153, February 4, 1992).

(3) Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(p) This amendment becomes effective on May 8, 2001.

FOR FURTHER INFORMATION CONTACT: Duong Tran, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2773; fax (425) 227-1181.

Issued in Renton, Washington, on April 11, 2001.

Donald L. Riffin, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.